



POSITION PAPER: Twelve Lead EKG

**DATE: Approved by the Governor's Advisory Board
January 28, 2000**

Definitions:

Twelve lead EKG: Twelve routine simultaneous or sequential EKG leads in a single study (right sided leads are not performed).

Background:

Single lead cardiac monitoring is a common ALS skill, allowing identification of potentially life threatening arrhythmias. While observation of a single lead, usually lead II, may detect cardiac ischemia, the use of the twelve lead provides are more consistent and specific alternative. Physicians and EMS providers may be able to identify the location of the infarct. Early identification of the myocardial infarction patient allows early administration of thrombolytic agents in the hospital or in the field. The drawbacks to 12 lead monitoring in the pre-hospital setting include increased cost of equipment, additional training, and under certain circumstances increased field time. The procedure is non-invasive. With the possible exception of prolonged out-of-hospital time, there is little direct risk to the patient.

1. Review of data from the agency runs should indicate a need for 12 lead EKG. This review should identify patients with risk factors and symptoms indicating a possible myocardial infarction. Time of transport to hospital should be considered as well. If average transport time is very short, 12 lead EKG may not be necessary.
2. The OMD for the agency shall be familiar with the procedure and willing to provide oversight. In general, ALS programs do not include sufficient training to allow use of the 12 lead EKG in the field setting. The OMD is instrumental in approval of additional necessary training, development of protocols, and communication of these protocols to the remainder of the medical community.

Twelve Lead EKG

3. The medical community (other regional OMD's, receiving physicians, ED physicians, anesthesiologists, and pediatric emergency or critical care physicians) shall be advised of the proposed protocol, and supportive. There is no benefit to prehospital 12 lead EKG unless the procedure has the potential to change patient therapy. Performance of 12 lead EKG in the field should be linked to an emergency department clinical decision algorithm including early definitive treatment with thrombolytic medications or invasive interventions (percutaneous balloon angioplasty or surgery). Involved members of the medical community include emergency department physicians, cardiologists and primary care physicians. Examples of support by the medical community include participation in training, review and development of protocols , and participation in QA activities.
4. There must be a written protocol.
5. There shall be a well defined program of initial and continuing education in the technique.
6. The agency must be willing to provide resources for training and continuing education for the procedure. Resources include classroom materials, instructor time, and provider time.
7. There must be a quality assurance program. This should include at minimum, review of individual and groups of cases for patient selection, adherence to protocol, and accuracy of interpretation.